1. Maximum Permissible Exposure (MPE)

Standard Applicable

According to §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline.

This is a Mobile device, the MPE is required.

According to §1.1310 and §2.1091 RF exposure is calculated.

Limits for Maximum Permissive Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm^2)	Averaging Time (minute)
Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f^2)	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	F/1500	30
1500-15000	/	/	1.0	30

F = frequency in MHz

* = Plane-wave equipment power density

The MPE was calculated at 20 cm to show compliance with the power density limit
The following formula was used to calculate the Power Density.

$$S = PG/4\pi R^2$$

Where: S = Power density

P = Power input to antenna

G = Power gain of the antenna in the direction of interest relative to an isotropic radiator

R = Distance to the center of radiation of the antenna

International Standards Laboratory Corp.

Maximum Permissible Exposure (MPE) Evaluation

Frequency Band (MHz)	Conducted power (dBm)	Antenna gain (dBi)	Tune-Up Tolerance (dB)	EIRP (dBm)	MPE (mW/cm^2)	LIMIT (mW/cm^2)
2402 - 2480	3.002	6.00	1	10.002	0.00200	1
2402 - 2480	3.000	6.00	1	10.000	0.00199	1
2412 - 2462	22.100	2.95	1	26.050	0.08012	1
5180 - 5240	11.185	5.28	1	17.465	0.01110	1
5260 - 5320	10.492	5.28	1	16.772	0.00947	1
5500 - 5720	10.648	5.40	1	17.048	0.01009	1
5745 - 5825	10.799	5.34	1	17.139	0.01030	1

Combination	Combined MPE (mW/cm2)	LIMIT (mW/cm^2)
BLE+WiFi 2.4G	0.08212	1
BLE+WiFi 5G	0.01310	1

This wireless communication module supports Bluetooth Low Energy (BLE), Zigbee, and Wi-Fi functionalities. It can independently transmit BLE, Zigbee, or Wi-Fi signals, and also supports simultaneous transmission of BLE and Wi-Fi. Therefore, MPE evaluation will focus on the simultaneous transmission mode of BLE and Wi-Fi.

~ End of Report ~

International Standards Laboratory Corp.   2